

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/621,911A
Source: IFPSO
Date Processed by STIC: 11/19/04

ENTERED



IFWO

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/621,911A

DATE: 11/19/2004
TIME: 10:45:21

Input Set : A:\PTO.FG.txt
Output Set: N:\CRF4\11192004\J621911A.raw

3 <110> APPLICANT: SAITOU, Mitinori
4 SURANI, Azim
6 <120> TITLE OF INVENTION: Genes
8 <130> FILE REFERENCE: 674558-2002
10 <140> CURRENT APPLICATION NUMBER: 10/621,911A
11 <141> CURRENT FILING DATE: 2003-07-17
13 <150> PRIOR APPLICATION NUMBER: PCT/GB02/00215
14 <151> PRIOR FILING DATE: 2002-01-18
16 <150> PRIOR APPLICATION NUMBER: GB 0101300.2
17 <151> PRIOR FILING DATE: 2001-01-18
19 <160> NUMBER OF SEQ ID NOS: 26
21 <170> SOFTWARE: SeqWin99, version 1.02
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 617
25 <212> TYPE: DNA
26 <213> ORGANISM: Mus musculus
28 <400> SEQUENCE: 1
29 gccgcagaaa gggcagaccc gcagcgcgt ccatcccttg ccctccagtg ctgccttgc 60
30 tccgcacccat gaaccacact tctcaaggct tcataccgc tgccagtgga ggacagcccc 120
31 caaaactacga aagaatcaag gaagaatatg aggtggctga gatggggggca cgcacggat 180
32 cgggttctgt cagaactact gtgatcaaca tgcccaagaga ggtgtcggtg cctgaccatg 240
33 tggctctggtc cctgttcaat acacttca tgaacttctg ctgcctggc ttcatagct 300
34 atgcctactc cgtgaagtct agggatcggg agatgggtgg tgatgtgact ggagccagg 360
35 cctacgcctc cactgctaag tgccctgaaca tcagcacctt ggcctcagc atcctgatgg 420
36 ttgttatcac cattgttagt gtcatacatca ttgttcttaa cgctaaaaac cttcacactt 480
37 aatagaggat tccgacttcc ggtccctgaag tgcttacccc tccgcagctg cgtccctct 540
38 tgccctccccc tacacgcagg tctaacaactc atttatctat ccacagtggaa ttcaataaag 600
39 tgcacattgt aaccacc 617
41 <210> SEQ ID NO: 2
42 <211> LENGTH: 137
43 <212> TYPE: PRT
44 <213> ORGANISM: Mus musculus
46 <400> SEQUENCE: 2
47 Met Asn His Thr Ser Gln Ala Phe Ile Thr Ala Ala Ser Gly Gly Gln
48 1 5 10 15
50 Pro Pro Asn Tyr Glu Arg Ile Lys Glu Glu Tyr Glu Val Ala Glu Met
51 20 25 30
53 Gly Ala Pro His Gly Ser Ala Ser Val Arg Thr Thr Val Ile Asn Met
54 35 40 45
56 Pro Arg Glu Val Ser Val Pro Asp His Val Val Trp Ser Leu Phe Asn
57 50 55 60
59 Thr Leu Phe Met Asn Phe Cys Cys Leu Gly Phe Ile Ala Tyr Ala Tyr
60 65 70 75 80

P.6

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/621,911A

DATE: 11/19/2004

TIME: 10:45:21

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\11192004\J621911A.raw

62 Ser Val Lys Ser Arg Asp Arg Lys Met Val Gly Asp Val Thr Gly Ala
 63 85 90 95
 65 Gln Ala Tyr Ala Ser Thr Ala Lys Cys Leu Asn Ile Ser Thr Leu Val
 66 100 105 110
 68 Leu Ser Ile Leu Met Val Val Ile Thr Ile Val Ser Val Ile Ile Ile
 69 115 120 125
 71 Val Leu Asn Ala Gln Asn Leu His Thr
 72 130 135
 74 <210> SEQ ID NO: 3
 75 <211> LENGTH: 823
 76 <212> TYPE: DNA
 77 <213> ORGANISM: Mus musculus
 79 <400> SEQUENCE: 3
 80 ggatcacaga ctgactgcta attgggtctt ggtttaggt ctttcaaag actaagcaat 60
 81 cttgttccga gctagcttt gaggttctg cccatcgcat cgccatggag gaaccatcg 120
 82 agaaagtgcga cccaatgaag gaccctgaaa ctccctagaa gaaagatgaa gaggacgctt 180
 83 tggatgatac agacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaacc 240
 84 taaaaccccggtgtcaagcggtccgacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaacc 300
 85 tacctgtgga gaacaagagt gaaaaaatcc ggagggaaatggtcaaaagcgcc tttcccaaga 360
 86 gaagggtccg cactttgttgcgtgtcaagcggtccgacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaacc 420
 87 ttcggattga gcagagacaa aaaaggctcg aagggaaatgatgtcaagcggtccgacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaacc 480
 88 cattcagatgtctctgcact ttctgcccatt atcaaagatgtcaagcggtccgacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaacc 540
 89 aaatcgggaa gaatttaggatcttacattgt acgctggccgtgtcaagcggtccgacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaacc 600
 90 agcagatgtg aaagctatttttgcgtgtcaagcggtccgacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaacc 660
 91 aacttgttaa cctttaaatttgcgtgtcaagcggtccgacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaacc 720
 92 agaagcctca agctgtgagg cccagggtctg aggaataaag taaatagaat ttggagtatgtcaagcggtccgacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaacc 780
 93 tacgttctaa tttccagaaaa ttgtatgtcaagcggtccgacgtccta caaccagaaa cactagtaaa ggtcatgaaa aagctaacc 823
 95 <210> SEQ ID NO: 4
 96 <211> LENGTH: 150
 97 <212> TYPE: PRT
 98 <213> ORGANISM: Mus musculus
 100 <400> SEQUENCE: 4
 101 Met Glu Glu Pro Ser Glu Lys Val Asp Pro Met Lys Asp Pro Glu Thr
 102 1 5 10 15
 104 Pro Gln Lys Lys Asp Glu Glu Asp Ala Leu Asp Asp Thr Asp Val Leu
 105 20 25 30
 107 Gln Pro Glu Thr Leu Val Lys Val Met Lys Lys Leu Thr Leu Asn Pro
 108 35 40 45
 110 Gly Val Lys Arg Ser Ala Arg Arg Arg Ser Leu Arg Asn Arg Ile Ala
 111 50 55 60
 113 Ala Val Pro Val Glu Asn Lys Ser Glu Lys Ile Arg Arg Glu Val Gln
 114 65 70 75 80
 116 Ser Ala Phe Pro Lys Arg Arg Val Arg Thr Leu Leu Ser Val Leu Lys
 117 85 90 95
 119 Asp Pro Ile Ala Lys Met Arg Arg Leu Val Arg Ile Glu Gln Arg Gln
 120 100 105 110
 122 Lys Arg Leu Glu Gly Asn Glu Phe Glu Arg Asp Ser Glu Pro Phe Arg
 123 115 120 125
 125 Cys Leu Cys Thr Phe Cys His Tyr Gln Arg Trp Asp Pro Ser Glu Asn

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/621,911A

DATE: 11/19/2004

TIME: 10:45:21

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\11192004\J621911A.raw

126	130	135	140				
128	Ala	Lys	Ile				
129	145		Gly				
131	<210>	SEQ ID NO:	5				
132	<211>	LENGTH:	4925				
133	<212>	TYPE:	DNA				
134	<213>	ORGANISM:	Rattus sp				
136	<400>	SEQUENCE:	5				
137	cccccccccc	cccccccccc	cctccccccc	cccccacctc	cgacgtatga	tggctcctag	60
138	acgcaacacg	aagcgactc	cccgcatcat	tcacgttagac	ccgccttctg	ctttccctgt	120
139	cgggttttgc	ggaagcccg	cggccctctc	ttctcacctt	gctccactag	cacgccggctg	180
140	tttcaactga	gcccagcact	ggctaagtgg	agcaccagga	gtttcaggct	atccttcaga	240
141	ggccaagggt	tagtccatgg	tgggctacag	gagaccctct	ctctccgtga	gtacagagag	300
142	gcaaacccaa	gccagacagg	ggtgatgatt	aggaacatac	cttcgtcggg	gagaaaatac	360
143	cgttcatat	aggaataaga	ggaaccagga	gttagttaag	gctgtgtgt	ctgggtgcgg	420
144	gtttttgac	tctcaacaac	cacgttcaga	acgtgtgt	tttttatgtat	gtgttagaat	480
145	ttccttatca	gcaattggtc	tccgcggtgt	ttcttttct	tttttaattt	tttaagtata	540
146	atttggtgtt	tgaagcaact	gtacttggac	tagaactccc	tgtgtatcc	agaatggaaat	600
147	cccaaattcct	aggattaaag	gttttagtgg	gctcagtgt	tgggtggggg	ttgttttgc	660
148	tacgtttag	cccaggctgg	gctcaatctc	aatccctctg	cctctgcctt	ctaaacgcgt	720
149	ggattaaaaag	tgctgcgc	tgatcctgt	gtagctttat	ttttatattt	ttatttattt	780
150	atttggctc	tttttttg	gagctgggg	ccgaaccgag	gcccttgc	ttccttaggca	840
151	agcgctctac	cactgagcta	aatcccaac	cccagtgt	ctttatttt	aagaacagga	900
152	gtctgtttc	tcaaaaacagt	ttctctgt	ccctgtgt	cctggactc	cgtaaaaccag	960
153	gctggtttg	gactctgcct	ttaaaacact	gggactaaag	gcccgtaccac	ctccgtggc	1020
154	tacacccgaa	tcttttaagc	ttcatttga	ccggggctt	ttcttttct	cacccactt	1080
155	ctggaagcga	ttttccgtct	aaatttccat	tcctgtaaa	tgactctgt	gggaaatagg	1140
156	aacccagaat	agattgagcc	gggggctacc	tgggaccccg	cactcccccac	cccccagccg	1200
157	ctgttgaagc	tctttgcctg	aggggcctcc	gggttgata	cctccttagca	ctccggcgt	1260
158	aggcgtggc	tcgggaggag	ccattcctt	ggagaggaaa	acaactgt	gccttgaatc	1320
159	tgcctaata	cctgacagtt	acatgggacc	tccttatttc	cacaggattc	tttagtctt	1380
160	gtttggaga	tttcaaatac	ttgagactgc	tcaaccctt	ctggccta	actcacaagg	1440
161	ccaggctaga	cccaaattct	gtcaaccctt	tctgtgtcca	aaacggtggg	tggctagct	1500
162	gctcaccctt	ggtgtactt	tgcttaaca	tccggaaaag	ttgtggta	ttccctgtat	1560
163	aaaataggac	catctactgg	gtgtggccc	atgtaaagca	aggttggtt	cccaaaatac	1620
164	cctgtttaca	tagatgtccg	gaagcattgg	agcaggctaa	ttagatttgc	gtggaaacag	1680
165	cctgttttgc	gaaagcttcc	caggcggaa	aatgaaccca	gaggcactat	tggcaagcc	1740
166	ctccggctaa	gcaacacaat	tggctgcagg	ggtctctgga	agaggtgt	gacaagagag	1800
167	aatatgcagg	tttcaggacc	tctgaactag	agttaggct	ctgtacatt	gtaacattgc	1860
168	tgtaaagcaga	acagcccatg	gtaagaagct	cagtgtatct	ctacaaacac	taggatatct	1920
169	gctcagggtt	tatgaccagg	ccctgtgt	atggttgt	tcttggc	ccctcttgc	1980
170	aagaggggtg	attatctgtt	acccacttcc	ttgttctct	gggttattac	cttgcaaaat	2040
171	gcaaaatgtat	atacttcaact	aatgtctcca	tcttctgttt	cagaatcc	acaaccagaa	2100
172	acactagtaa	aggcatgaa	aaagctaacc	ctgaacccca	gtgccaagcc	gacaaaatat	2160
173	catcgctc	aaagggttcg	tctccagggt	aaagccagc	ctgtggagaa	cagaagtgaa	2220
174	agaatcatga	gggaagttca	aagccctt	cccaggagaa	gggtccgcac	tctgtgtcc	2280
175	gtgctgaaag	acccatagc	aaggatgaga	agatttgc	gggtgagtt	cgtttgggg	2340
176	cgggcata	atctaagac	aactctagcc	tcaggaatgg	cacctagtt	aaacaggaa	2400
177	tgtagacaag	gatagtgtact	acctgtgatt	cccagctaa	gaaaacaagc	tccaggc	2460

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/621,911A

DATE: 11/19/2004

TIME: 10:45:21

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\11192004\J621911A.raw

178 tcctctactg cgcagctctga agctggccag agctatatgc aaattgataa gtcagtataa 2520
 179 catttatttt tggattttca gactccctcc ccatagtcca aactggccct ccagttcagt 2580
 180 ccacggtcct gcttcttccc cggtgctagg ctttgagtg ataaggctga cttagactgg 2640
 181 atctcagagc tgaagtggac ctgttagtct ttgttagacca ggctgggggt gtttctgctt 2700
 182 tctcagcgcc tagctcacat agtaggcatt ttaactttgt cttaatagta atttgagtaa 2760
 183 tttgtttt ctcttgaaga ttgagcagag acaaagacag cttaaggaa atgaggtaaa 2820
 184 tgcataatggc tgggtagggt gtctatggat gggtaggggt tcttgggtt actgtttcct 2880
 185 tagacaagga gtgtgtatgt ggagagttac cttctcaaca cagggaatct gggttattaaa 2940
 186 gcagttactt aaaaataaat aaaaataata aaataaaaat aaagcagtag aaggggattt 3000
 187 acatttctt tgagttgcaa tattctgatt aacatttttc tttcagagac gagatgagcc 3060
 188 attcagatgt ctctgcactt tctgccatta tcagagatgg gatccttctg agaatgctaa 3120
 189 aatcggggcag aaccagaaga attagggcag tttgaattgt acaccgtcct tgccgttaac 3180
 190 gggtccatgc agcagatgtg aaagctgtt tttgtttaa gattaaactt ttcttgggtc 3240
 191 tggggaaatc tcttctaatt gctaacctt aaattatata ggtgtgtga catttggatt 3300
 192 catgggaatg acagattac ccaagaattt agcatgagtc aaagctgggt agtttgcattt 3360
 193 agaaggtaat tggaaataat cttttattt tagattttct agtttgcaga gaaatttgc 3420
 194 ataaaggcaa atttgttatc ttaataataat acagaacaga tttagaatgag ccattggaga 3480
 195 tggggactc gtttttaca ggtgcattgtg tgggtgtgt atggttgcagag ttcaatgtgt 3540
 196 gctaccctgt atttctgctt gaggcaaggt ctccatgagg cctagctgg ctaactcctg 3600
 197 gtcctgcctt ttgtttccc ctgagtttgc acaccatagg cttgtcggca agatctggaa 3660
 198 gagcttgat gtttgcattt gtgtgtgtt ataaacaatt ggttgcacata ttctaaagt 3720
 199 gtggcactgt attgaccgtt ctgtctcatg aggaagttaa tgaccggagc ataattgtat 3780
 200 gctttatttc ctgagagaag tgcaggaaa ggaggagttt ggaagaaagc cccaggctgg 3840
 201 gtttaagagc actggctgct tttccaggg tcttgcattt aattcccagc aatcacctgg 3900
 202 tggctcccga acatctgtt caggatccaa tgcccttgc ttgtgtgtt aagaactccc 3960
 203 taggcatttca gaggattttt gttttttttt tttttttttt ttgcgtttttt 4020
 204 tcagagctgg ggaacccaa ccaggccctt ggcgttgcata agcaagcgct ctaccactga 4080
 205 gctaaatccc caaccctac aatggccctt ttcttgcattt ttttgcattt tcaataaaaag 4140
 206 actggggcaa aagaaaggct ggagtgaatg agagagaaca tgcgttgcattt aatgagaga 4200
 207 gagcatgagg gaatgtatga gagagtgaat gtgagaacga atgtgagagc gagtgagaga 4260
 208 acatgagaag aacacgttac gagtgatgtt agagagaatg tgaggtgtgt atgaagattt 4320
 209 tgcgtgggtt tggggattt gctcattgtt agatgtgtt cctaggaagc acaaggccct 4380
 210 gggtcggtc cccagctcca aaaaaaaagac ccaaaaaaaaaaaaaaa aaagattgtt 4440
 211 tgcgtgtgtt aaaggagatgtt gcatgtgtt tgcgtgtt atgtgcattt tgcgttatcaa 4500
 212 gagtgatgtt gagtgatgtt ggttgcattt cagagggtgtt catgagcgtt ggagtttgc 4560
 213 aaaaagaaac agcaataaaaa aaaaaaaagcag agtgcacgc agaattgcaga tgcgtgtt 4620
 214 cctcaagctg agacagagac agagagaaaag agagagagag agagagactt taagcattt 4680
 215 aattacctgt cagttgttac cccaaatgtt gtcgtgtt atttttttt aatccttccat 4740
 216 atccctgcctt ccagtggaga actctgttgc tatgttgcattt ctggaccctg gcaatagtgg 4800
 217 gcttcttgcattt aatagtgcattt agggaaacagt gctacaccat ggacttaagc ctttagactc 4860
 218 agttctggct tcaagagcag ctgtcagaaa ataagtgcattt aactacttgc agtgcactc 4920
 219 gaatc 4925
 221 <210> SEQ ID NO: 6
 222 <211> LENGTH: 1444
 223 <212> TYPE: DNA
 224 <213> ORGANISM: Rattus sp
 226 <400> SEQUENCE: 6
 227 ccaggattca gacgagcttag gcctcatgca tggagacattt gcctcaagca gaaataaaaca 60
 228 gggtagcaca cattgaactc tgaacatcac gagtgtgcac acacccacac atgcattgtt 120

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/621,911A

DATE: 11/19/2004
TIME: 10:45:21

Input Set : A:\PTO.FG.txt
Output Set: N:\CRF4\11192004\J621911A.raw

229 aaaaaacgag tccccatctc caatggctcg ttctaatctg ttctgtgtat ttattaaaga 180
 230 taacaaattt gcctctatta caaatttctc tgcaaactag aaaatctaa ataaaagatc 240
 231 tattccaatt accttctaaa tcaaactacc gggcttgc tcatgctcaa ttctggta 300
 232 aatctgtcat tcccattgaat ccaaattgtca cacatcctat ataatttaaa ggttagcaag 360
 233 tagagatttc cccagcacca agaaaaagttt aatcttaac aaaaaaaacag ctttcacatc 420
 234 tgctgcatgg caccgttaac ggcaggaca gtgtatgatt caaactgccc taattttct 480
 235 ggttctgccc aatttttagca ttctcagaag gatcccattt ctgataatgg cagaaagtac 540
 236 agagacatct gaatggctca actttctctt catttccttc aagctgtctt tgtctctgt 600
 237 caatccgaac aaatcttctc atccttgcata tggggctttt cagcaccgac aacagtgtgc 660
 238 ggacccttctt cttgggaaag ggcgtttgaa ctcccattcat gattctttca ttctgttct 720
 239 ccacaggctg gctcttaatc tgagagacgaa cccttgcacg aagatgatat ttggccgt 780
 240 ttagatagaa tatcaaaaca acatttaaca tttaaataac ttaacgatat acacaccttt 840
 241 ttttttcca cttcccccaca cagacaaaaaa acaaccctat tttttctta caaccggcc 900
 242 taagcaagcg aagcatttagt aactgaccaa tcataaaaaag gaaacaccac cagaccacat 960
 243 caaataaaat aaaatcaccg cccaaacccca cccctataaa aaacccggcc accacaccac 1020
 244 atatactccc ccccccccgcc accatcacta catcaccctc tccacccatt cccacccccc 1080
 245 ccccccaacat taacccacc ccatcacgga aacccccaac accaacaat aaatttagaca 1140
 246 catcqatttataaaatttga cacaagaccc accccaaaaag agcagcaag attagagcca 1200
 247 catcctcgcc ccaacacaat acactcaacc tgcatatgtat ctatctccac cccaaacctag 1260
 248 aaacaaaaat ctaatcagca ccaggcaccc aagtatcagc cacactcaaa aacataacca 1320
 249 ccaattaaac acgccccacc caccaccaa cccacccggcc tgacaacaca ttctcgaaact 1380
 250 accctcaaca tcacccaaag caatcgcaag ttacgatgac tccaaaccacc tcactctctc 1440
 251 attg 1444
 253 <210> SEQ ID NO: 7
 254 <211> LENGTH: 7656
 255 <212> TYPE: DNA
 256 <213> ORGANISM: Rattus sp
 258 <220> FEATURE:
 259 <221> NAME/KEY: misc_feature
 260 <222> LOCATION: (7471)..(7471)
 261 <223> OTHER INFORMATION: "n" is an unknown nucleotide
 263 <220> FEATURE:
 264 <221> NAME/KEY: misc_feature
 265 <222> LOCATION: (7554)..(7554)
 266 <223> OTHER INFORMATION: "n" is an unknown nucleotide
 268 <220> FEATURE:
 269 <221> NAME/KEY: misc_feature
 270 <222> LOCATION: (7608)..(7608)
 271 <223> OTHER INFORMATION: "n" is an unknown nucleotide
 273 <400> SEQUENCE: 7
 274 ctgcaagtag ttcatcattt acagatcaaa agaaaagaaga ataaaaaaac aagggtgtcat 60
 275 gatccctcca aaagagtggaa acacttcaac tgccagatcc aagatactga aatgggttagc 120
 276 atgctggaga aagaattcaa aagtttagtta gagaatctgg ttgagcagag cacttgcctt 180
 277 tctccagag gatctgagtt caagtcccag gacctataatc acagtttctt gtaactcttag 240
 278 ctccagaggg tctgacactt ctgttcaactg tgggcacactg cattcacaga caaacataaa 300
 279 gtagttcatc accctttca cagaaaaaccc acagcatgtg aggaaatccg ggtctctgcg 360
 280 caatcccccc acagcagaag gggggagctg gagagatgtt tcattgtta gcccatttat 420
 281 tgctcttgaa gagaacccag ggtcatccat agcaccata gcagctcaca accatctcca 480
 282 gttccaggag atccaatgcc ctgttgcac ctccaggatcc accatcacac aatgaacctg 540

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/621,911A

DATE: 11/19/2004
TIME: 10:45:22

Input Set : A:\PTO.FG.txt
Output Set: N:\CRF4\11192004\J621911A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; N Pos. 7471,7554,7608
Seq#:8; N Pos. 2115,2142,2143,2146

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/621,911A

DATE: 11/19/2004

TIME: 10:45:22

Input Set : A:\PTO.FG.txt

Output Set: N:\CRF4\11192004\J621911A.raw

L:398 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:7440

M:341 Repeated in SeqNo=7

L:464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:2100